Abstract:

Utilizes pre-processing (pre-filtering) of target data in order to facilitate and enable robust extraction of a watermark signal. With the present invention the watermarked data is pre-filtered using knowledge of the watermark signal. That is, utilizing knowledge of the characteristics of the watermark signal (for example that it falls in a certain frequency range), aspects or portions of the signal that do not carry the watermark signal are eliminated by filtering. Such filtering can amplify the watermark signal and/or simultaneously reduces the strength of the original (host) content or noise in the data signal that contains the watermark. That is, pre-filtering increases the signal-to-noise ratio of the watermark signal and facilitates the watermark extraction steps (detection and decoding). With the present invention it is possible to extract weak watermark signals from target data.